

The NETL data network consists of private, scientific, corporate, and public segments.

The private network segments consist of a Cisco 6500 switch at each physical location, performing layer 3 routing through the use of VLAN port assignments. This switch provides backbone connections for network servers, data storage devices, remote access devices, and network monitoring equipment. The internal switch connects through a Gigabit Ethernet fiber optic backbone to smaller, layer two switches located throughout the facility. These switches provide the connectivity to end users workstations and printers. The majority of these switches are Hewlett Packard 4000M, with Cisco 4000s and 3Com 3300s also being used. Dial-up remote access into the internal network is accomplished by Cisco AS5300 access servers located at each facility. The NETL internal network is also extended to a contractor office, located at an off-site location, over a T1 link. The T1 link terminates at a Cisco 2500 router.

The scientific network provides high speed data communications to a limited subset of NETL users. The scientific network connects the two NETL facilities to computing resources at Pittsburgh Supercomputing Center, Carnegie Mellon University, Penn State University, and West Virginia University. The wide area connection is an ATM OC-3 circuit providing 155 Mb speeds. This ATM circuit terminates at each NETL location in a Cisco 7200 VXR router. The scientific network is extended to location with these facilities over a Gigabit Ethernet fiber backbone to Cisco 4000 switches.

The corporate segment of the network connects the NETL facilities to the Department of Energy's corporate network. The networks are separated from the internal network by a CheckPoint Firewall. The corporate network segment exists at both facilities, and is distributed by a single Hewlett Packard 4000M switch. All routing functions used by the corporate network are maintained by the corporate network administrators.

The public network segment connects both NETL facilities to the Internet. Both Morgantown and Pittsburgh campuses have a 3 Mb internet connection provided by Savvis Communications. The wide area link provided by Savvis is terminated in a Cisco 3600 series router. A Hewlett Packard 4000M switch provides the physical connections for the public network segment.